

Claims

- [c1] A network management apparatus for managing setting information of a network communication apparatus connected to a network, comprising:
a setting information receiving unit operable to receive said setting information of said network communication apparatus from said network communication apparatus;
a storing unit operable to store said received setting information as a file and to store identifying information of said network communication having said setting information as a property of said file, said property being capable of being accessed without opening said file; and
a setting information sending unit operable to send said file to said network communication apparatus identified by said identifying information so as to change said setting information of said network communication apparatus, when said file is read from said storing unit to be stored in said network communication apparatus.
- [c2] A network management apparatus as claimed in claim 1, wherein, when said file is read from said storing unit to be stored in a further network communication apparatus connected to said network, said setting information sending unit sends said read file to said further network communication apparatus so as to change setting information of said further network communication apparatus.
- [c3] A network communication apparatus comprising:
a communication controlling memory operable to store at least one of a program to be used for controlling communication performed by said network communication apparatus and setting information of said communication to be read in accordance with said program;
a communication controller operable to control said communication by accessing said at least one of said program and said setting information stored in said communication controlling memory by using a physical address in said communication controlling memory;
a file-name sending unit operable to send a predetermined file name when a

request for a file name is received; and
a setting information sending unit operable to send said at least one of said program and said setting information stored in said communication controlling memory, when said sent file name is specified to request a file having said sent file name.

- [c4] A network communication apparatus as claimed in claim 3, wherein said communication controlling memory is a register provided in a communication LSI for controlling said communication performed by said network communication apparatus.
- [c5] A network communication apparatus as claimed in claim 3, wherein said communication controlling memory stores said setting information in the form of a table.
- [c6] A network communication apparatus as claimed in claim 4, wherein, when said sent file name is specified to request a file having said sent file name, said setting information sending unit reads said setting information from said communication controlling memory and sends said read setting information after inserting at least a code for line feed into said read setting information.
- [c7] A network communication apparatus as claimed in claim 4, wherein, when said sent file name is specified to request a file having said sent file name, said setting information sending unit reads said setting information from said communication controlling memory and sends said read setting information after converting said read setting information into text data.
- [c8] A network communication apparatus as claimed in claim 3, further comprising a text memory operable to store text data specifying a type of the contents of said setting information in such a manner that said type corresponds to said setting information, wherein said setting information sending unit reads said text data and said setting information from said text memory and said communication controlling

memory, respectively, and sends said text data and said setting information.

[c9] A network communication apparatus as claimed in claim 3, wherein said file-name sending unit sends said file name when a LIST command or an NLST command in the FTP (File Transfer Protocol) is received.

[c10] A network communication apparatus as claimed in claim 3, wherein said setting information sending unit sends said setting information when a GET command or an RETR command in the FTP (File Transfer Protocol) is received.

[c11] A network communication apparatus as claimed in claim 3, further comprising:
a setting information receiving unit operable to receive contents of a file having a specified file name; and
a setting information updating unit operable to change said setting information stored in said communication controlling memory based on said contents of said file received by said setting information receiving unit.

[c12] A network communication apparatus as claimed in claim 11, wherein said setting information updating unit changes said setting information stored in said communication controlling memory when a file name of said file received by said setting information receiving unit coincides with said file name sent by said file-name sending unit.

[c13] A network communication apparatus as claimed in claim 12, wherein said setting information updating unit changes said setting information stored in said communication controlling memory when a PUT command or a STOR command in FTP (File Transfer Protocol) is received.

[c14] A network communication program of a network communication apparatus, comprising:
a storing module operable to store at least one of a program to be used for controlling communication performed by said network communication apparatus and setting information of said communication to be read in

accordance with said communication;

a communication controlling module operable to control said communication by accessing said at least one of said program and said setting information stored in a communication controlling memory of said network communication apparatus by using a physical address in said communication controlling memory;

a file-name sending module operable to send a predetermined file name when a request for a file name is received; and

a setting information sending module operable to send said at least one of said program and said setting information stored in said communication controlling memory when said sent file name is specified to request a file having said sent file name.

[c15]

A network communication method in a network communication apparatus, comprising:

storing at least one of a program to be used for controlling communication by said network communication apparatus and setting information of said communication to be read in accordance with said program in a communication controlling memory of said network communication apparatus;

controlling said communication by accessing said at least one of said program and said setting information in said communication controlling memory by using a physical address in said communication controlling memory;

sending a predetermined file name when a file name request for a file name is received; and

sending said at least one of said program and said setting information in said communication controlling memory when said sent file name is specified to request a file having said sent file name.

[c16]

A network communication method as claimed in claim 15, wherein said setting information is stored in a register provided in a communication LSI serving as said communication controlling memory in said storing.

- [c17] A network communication method as claimed in claim 15, wherein, in said storing, said setting information is stored in the form of a table.
- [c18] A network communication method as claimed in claim 16, wherein, in said setting information sending, said setting information is read from said communication controlling memory and is sent after being formatted by insertion of at least a code for line feed.
- [c19] A network communication method as claimed in claim 18, wherein, in said setting information sending, said setting information is sent after being converted into text data.
- [c20] A network communication method as claimed in claim 15, wherein, in said storing, text data specifying a type of said setting information is further stored so as to correspond with said setting information, and in said setting information sending, said text data and said setting information respectively read from said text memory and said communication controlling memory are sent when said file is requested.
- [c21] A network communication method as claimed in claim 15, wherein, in said file name sending, said file name is sent when a LIST command or an NLST command in the FTP (File Transfer Protocol) receives said file name.
- [c22] A network communication method as claimed in claim 15, wherein, in said setting information sending, said setting information is sent when a GET command or an RETR command in the FTP (File Transfer Protocol) is received.
- [c23] A network communication method as claimed in claim 15, further comprising:
receiving contents of a file having a file name specified; and
changing said setting information stored in said communication controlling memory of said network communication apparatus based on said contents of said file received in said setting information receiving.

[c24] A network communication method as claimed in claim 23, wherein, in said setting information changing, said setting information is changed when said file name of said file received in said setting information receiving coincides with said file name sent in said file name sending.

[c25] A network communication method as claimed in claim 24, wherein, in said setting information changing, said setting information stored in said communication controlling memory of said network communication apparatus is changed when a PUT command or a STOR command in the FTP (File Transfer Protocol) is received.

[c26] A computer network system comprising:
a network communication apparatus operable to perform communication in a network; and
a network management apparatus operable to manage setting information of said network communication apparatus, wherein
said network communication apparatus includes:
a communication controlling memory operable to store at least one of a program to be used for controlling said communication and said setting information of said communication to be read in accordance with said program;
a communication controller operable to control said communication by accessing said at least one of said program and said setting information in said communication controlling memory by using a physical address in said communication controlling memory;
a file-name sending unit operable to send a predetermined file name when a request for a file name is received from said network management apparatus;
a communication-side setting information sending unit operable to send said at least one of said program and said setting information in said communication controlling memory of said network communication apparatus to said network management apparatus, when said sent file name is specified in said network management apparatus to request a file having

said file name.

- [c27] A computer network system as claimed in claim 26, wherein said communication controlling memory is a register provided in a communication LSI for controlling said communication.
- [c28] A computer network system as claimed in claim 26, wherein said communication controlling memory stores said setting information in the form of a table.
- [c29] A computer network system as claimed in claim 27, wherein said communication-side setting information sending unit reads said setting information from said communication controlling memory and sends said read setting information that has been formatted by insertion of at least a code for line feed.
- [c30] A computer network system as claimed in claim 29, wherein said communication-side setting information sending unit sends said setting information after converting said setting information into text data.
- [c31] A computer network system as claimed in claim 26, wherein said network communication apparatus further includes a text memory operable to store text data specifying a type of contents of said setting information so as to correspond to said setting information, and said communication-side setting information sending unit sends said network management apparatus said text data and said setting information respectively read from said text memory and said communication controlling memory, when said file is requested.
- [c32] A computer network system as claimed in claim 26, wherein said file-name sending unit sends said file name when a LIST command or an NLST command in the FTP (File Transfer Protocol) is received from said network management apparatus.
- [c33] A computer network system as claimed in claim 26, wherein said

communication-side setting information sends said setting information when a GET command or an RETR command in the FTP (File Transfer Protocol) is received from said network management apparatus.

[c34] A computer network system as claimed in claim 26, wherein said network communication apparatus further includes:
a communication-side setting information receiving unit operable to receive contents of a file having a file name specified; and
a setting information updating unit operable to change said setting information stored in said communication controlling memory based on said contents of said file received by said communication-side setting information receiving unit.

[c35] A computer network system as claimed in claim 34, wherein said setting information updating unit changes said setting information stored in said communication controlling memory when said file name of said file received by said communication-side setting information receiving unit coincides with said file name sent by said file-name sending unit.

[c36] A computer network system as claimed in claim 35, wherein said setting information updating unit changes said setting information stored in said communication controlling memory when a PUT command or a STOR command in the FTP (File Transfer Protocol) is received from said network management apparatus.

[c37] A computer network system as claimed in claim 26, wherein said network management apparatus includes:
a file-name receiving unit operable to receive a file name determined in advance in said network communication apparatus from said network communication apparatus by specifying said network communication apparatus;
a management-side setting information receiving unit operable to receive said setting information of said network communication apparatus from said network communication apparatus by specifying said received file name; and

a display unit operable to display said received setting information.

[c38] A computer network system as claimed in claim 37, wherein said management-side setting information receiving unit formats said received setting information by inserting at least a code for line feed into said setting information, and
said display unit displays said formatted setting information.

[c39] A computer network system as claimed in claim 38, wherein said management-side setting information receiving unit converts said received setting information into text data, and
said display unit displays said setting information after being converted into said text data.

[c40] A computer network system as claimed in claim 37, wherein said network management apparatus further includes a text memory operable to store text data specifying a type of contents of said setting information to correspond to said setting information, and
said display unit displays said text data read from said text memory and said setting information received by said management-side setting information receiving unit in such a manner that said text data corresponds to said setting information.

[c41] A computer network system as claimed in claim 37, wherein said network management apparatus further includes:
a management-side setting information changing unit operable to change said received setting information; and
a management-side setting information sending unit operable to send said network communication apparatus said setting information that has been changed so as to change setting information of said network communication apparatus.

[c42] A computer network system as claimed in claim 37, wherein said management-side setting information sending unit sends said setting

